

Serial No. 09/968,181

Art Unit 2854

Remarks

To further prosecution of the present application, the Applicants have amended claim 32, and have added new claims 37-40. The Applicants have also cancelled claims 33-36 without prejudice to the subject matter contained therein.

Rejection of Claims 32-34 Under 35 U.S.C. § 103(a)

Claims 32-34 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Anderson (U.S. 4,419,303). Claims 33-34 have been cancelled from the present application. The Applicants respectfully traverse the rejection of claim 32 for the reasons provided below.

The Examiner has rejected claim 32 as being unpatentable over Anderson because one of ordinary skill in the art would assume that a heat gradient is present in the process as disclosed by Anderson. The Examiner points out that Anderson does not specify forming a "heat gradient", but that creation of a heat gradient is a natural consequence of the cooling arrangement of the Anderson vessel (10). Liquid nitrogen is the source of cooling, which circulates in a coolant jacket (44) of the vessel (10) to maintain an inert cooling fluid, such as helium, in the vessel chamber (42) at a temperature below ambient. The Examiner contends that, by the laws of thermodynamics, only forcible cooling can maintain the helium at the lower temperature; otherwise, the temperature would stabilize at a point somewhere between the ambient temperature outside the system and the much cooler temperature of the cooled helium. The Examiner, therefore, concludes that the actual temperature of the helium at any given point in the Anderson vessel would vary; the helium would be at a lower temperature at a point near to the source of forced cooling than it would be at a point further from the source.

Claim 32, as amended, is directed to a method for forming and solidifying uniform sized and shaped solid spheres including allowing liquid spheres of a low viscosity material to pass through an enclosed controlled low temperature solidification environment having a temperature of less than about 0° C. The low temperature solidification environment has a top portion and a bottom portion containing at least one heat transfer medium. The at least one heat transfer medium is provided to the top portion of the solidification environment at a first temperature and provided to the bottom

Serial No. 09/968,181

Art Unit 2854

portion of the solidification environment at a second temperature to establish a heat gradient within the low temperature solidification environment. Liquid spheres pass through the heat transfer medium in the top portion and in the bottom portion of the solidification environment to cool and solidify into the uniform sized and shaped solid spheres.

Anderson does not disclose or suggest supplying at least one heat transfer medium at a first temperature in a first portion of a temperature solidification environment and at a second temperature in a second portion of the temperature solidification environment to establish a heat gradient to cool and solidify liquid spheres of a low viscosity liquid material. One of ordinary skill in the art would not be motivated by the method of Anderson to provide at least one heat transfer medium at a first temperature in a first portion of a temperature solidification environment and at a second temperature in a second portion of the solidification environment to establish a heat gradient. Anderson simply does not disclose or suggest establishing such a heat gradient as recited in claim 32. The method of claim 32, therefore, is not obvious from Anderson and patentably distinguishable therefrom. The rejection of claim 32 under 35 U.S.C. § 103(a), therefore, should be withdrawn.

New Claims

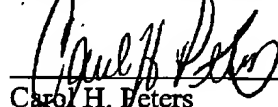
The Applicants have added new claims 37-40 to the present application by the foregoing amendment. Claims 37-40 do not add new subject matter to the application and have proper antecedent basis. Claims 37-40 depend from amended claim 32 and are patentable for at least the reasons given above with respect to claim 32.

Serial No. 09/968,181

Art Unit 2854

Based upon the foregoing amendments and discussion, the presented claims are believed to be in condition for allowance, which action is respectfully solicited. Should the Examiner have any questions concerning this response, he is invited to telephone either the undersigned at the number provided below, or Jason Mirabito, Registration No. 28,161, at 617-348-1805.

Respectfully submitted,



Carol H. Peters

Registration No. 45,010

Mintz, Levin, Cohn, Ferris

Glovsky and Popeo, P.C.

One Financial Center

Boston, MA 02111

Attorneys for Applicant

T: 617/348-4914

F: 617/542-2241

Date: 6/27/03

TRA 1809340v1